

Date: Wednesday, 21/01/2009 2:42:32 PM
 User: Julie Dawson

Process Sheet

| | |
|--|---|
| Customer : CU-DAR001 Dart Helicopters Services | Drawing Name : SADDLE BILLET (6061) |
| Job Number : 45033 | |
| Estimate Number : 12482 | |
| P.O. Number : | Part Number : D6102013 |
| This Issue : 21/01/2009 S.O. No. : | Drawing Number : D6102 REV D |
| Prsht Rev. : NC | Project Number : N/A |
| First Issue : / / Type : PURCHASED PARTS | Drawing Revision : D |
| Previous Run : 43918 | Material : |
| Written By : | Due Date : 04/02/2009 Qty: 40 Um: Each |
| Checked & Approved By : <u>Jup 09.01.21</u> | |
| Comment : Est Rev:A New Issue 06-07-03 JLM | |

Additional Product

Job Number:



| | | |
|----------------|------------------------------|----------------------|
| Seq. #: | Machine Or Operation: | Description : |
|----------------|------------------------------|----------------------|

1.0

PG

PURCHASING

**Comment:** Issue P/O: 8027

C 209/01/22

- a) Description: Aluminum Billet
 - b) 7.000" x 6.500" x 2.000" thick
 - c) Tolerance on all dimensions is +0.06/0.00
 - d) Grain direction along 6.500" length
 - e) Material: 6061-T6/T6511 (QQ-A-250/11 or QQ-A-200/8)
- Material release certificate is required

(40)

2.0

D6102013P

6061-T6 7.0x6.5x2.0



Comment: Qty.: 1.0000 Each(s)/Unit Total: 40.0000 Each(s)
 6061-T6 7.000"x6.500"x2.000"

3.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1
 Receive & Inspect For Transit Damage
 Ensure material certification is attached

Handwritten signature and date: 09/13/11

4.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK
 Check certification to Dwg D6102 for compliance

Handwritten signature and date: 09/13/11

(40)

5.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1
 Identify and Stock
 Location: _____

Handwritten signature and date: 09/13/11

(40)

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Wednesday, 21/01/2009 2:42:32 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SADDLE BILLET (6061)

Job Number: 45033

Part Number: D6102013

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC21

FINAL INSPECTION/W/O RELEASE



09/03/12 *[Signature]*

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



MF
09-03-12

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

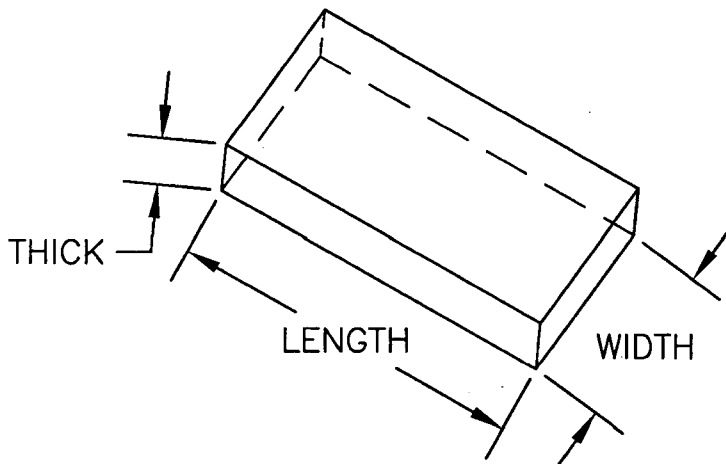
| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

DART

| | | | |
|------------------|----------------|--|------------------------|
| DESIGN # | DRAWN BY PH | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED CP | APPROVED # | DRAWING NO. D6102 | Rev. D SHEET 1 OF 1 |
| DATE 06.06.30 | | TITLE SADDLE BILLET, 6061 | SCALE NTS |
| A | 01.03.30 | NEW ISSUE | |
| B | 03.10.20 | ADD D6102-005/-007/-009 | |
| C | 04.08.25 | ADD D6102-010/-011 | |
| D | 06.06.30 | ADD D6102-013 | |

SPECIFICATION CONTROL DRAWING



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 45033

RELEASED

06.08.15 #

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.06/-0.00), AND GRAIN DIRECTION AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.06/-0.00.

ALL DIMENSIONS ARE IN INCHES.

| Part No. | Alloy | Length | Width | Thick | Grain Direction |
|-----------|--|--------|--------|-------|---------------------|
| D6102-001 | 6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8) | 7.880 | 6.250 | 2.000 | Along 7.880 Length |
| D6102-003 | 6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8) | 6.000 | 6.250 | 2.000 | Along 6.000 Length |
| D6102-005 | 6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8) | 47.85 | 15.250 | 1.000 | Along 47.85 Length |
| D6102-007 | 6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8) | 7.500 | 7.000 | 2.500 | Along 7.500 Length |
| D6102-009 | 6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8) | 11.000 | 6.000 | 5.000 | Along 11.000 Length |
| D6102-010 | 6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8) | 7.950 | 8.250 | 2.500 | Along 7.950 Length |
| D6102-011 | 6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8) | 6.500 | 8.250 | 2.500 | Along 6.500 Length |
| D6102-013 | 6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8) | 6.500 | 7.000 | 2.000 | Along 6.500 Length |

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| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

**Castle Metals®**

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 1 of 1

No de Formulaire d'Emballage / Pack Slip No:30556

| | | | | | | |
|--|---------------|---|--|---|---|--------------------------------------|
| Expédié de / Ship From: | | Vendu à / Sold To: | | Expédié à / Ship To: | | Livré à / Deliver To: |
| Castle Metals - Aerospace Montreal 835-Selkirk Avenue Pointe Claire, QUEBEC H9R 3S2 | | DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 | | DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 | | |
| Date d'expédition / Date Shipped | F.O.B. | Modalités de transport / Freight Terms | | Transporteur / Carrier | N° du Bon de connaissance / BOL No | N° de livraison / Delivery No |
| 06-MAR-09 | ORIGIN | Prepaid | | Manitoulin | 29101 | 2147036 |

| | |
|--|--|
| Détails d'expédition / Shipment Details | Destination finale / Final Destination Branch - |
|--|--|

| N° de commande / Order No | N° de ligne / Line No | N° d'article / Item No | Description | Qté livrée / Shipped Qty | |
|---|-----------------------|------------------------------|--|----------------------------|--------------------------------|
| 173247 | 1 | 8641.MO | 2.0000.PL.6061.T651.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 7 IN () X 6.5 IN () | 40 PCS | |
| N° de bon de commande / Purchase Order No | | Nbre de pièces / Part Number | Qté commandée / Ordered Qty | Qté expédiée / Shipped Qty | Solde à livrer / Backorder Qty |
| 8027 | | | 40 PCS | 40 PCS | |
| Détails / Details | | | | | |
| | Usine / Mill | | No de coulée / Heat Number | Code méc / Mech Id | Qté expédiée / Shipped Qty |
| | | | 433624A4 | | 40 PCS |

| | | | |
|---|--|----------------------|--|
| <small>Ces marchandises/technologies sont sujettes aux règlements de l'Export Administration et du département d'état des États-Unis. Si elles ont été/sont exportées, elles doivent se conformer à ces règlements. Toute modification du contrat de transport contraire aux lois des États-Unis est interdite. These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.</small> | | | |
| <small>Nous certifions par la présente que le matériel couvert par cette certification est conforme aux spécifications susmentionnées et aux exigences applicables pour le matériel, y compris toute spécification faisant partie de la description. Les rapports d'essai sont archivés pour fins de consultation. Toute requête concernant du matériel défectueux sera rejetée à moins qu'elle ne soit faite par écrit à A. M. Castle & Co. dans les 60 jours suivant la livraison. Le matériel coupé sur mesure ou coupé par le client ne peut être retourné pour crédit. We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.</small> | | | |
| <small>Ce matériel a été reçu et inspecté par This material has been received and inspected by:</small> | | <small>Date:</small> | |

SHIP TO:
A M CASTLE & CO
14001 ORANGE AVE
P.O. BOX 1402
PARAMOUNT, CA 90723

**KAISER
ALUMINUM**

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2588

CERTIFIED TEST REPORT

Serial Number
4121454

SOLD TO:
AM CASTLE & CO
3400 NO. WOLF ROAD
FRANKLIN PARK, IL 60131

| | | | | | | |
|---------------------------------|-------------------------|---------------------------|---|---------------|--------------------------------|---|
| CUSTOMER PO NUMBER: 02-29555 | | WORK PACKAGE: | CUSTOMER PART NUMBER: 8841 A98081-60 | | SHIP RUN/LOAD ID: 101220/22 | GOV'T CONTRACT NUMBER: |
| KAISER ORDER NO: 1082787 | LINE ITEM: 1 | SHIP DATE: 14-FEB-2008 | ALLOY: 8081 | CLAD: BARE | TEMPER: T851 | PRODUCT DESCRIPTION: PRECISION PLATE |
| WEIGHT SHIPPED: 11222 LB | QUANTITY: 8 PCS EST. | B/L NUMBER: 2016487 | GAUGE: 2.0000 IN | | WIDTH: 48.500 IN | LENGTH: 144.500 IN |

Certified Specifications

AMS 4027/RevM
ASTM B 209/Rev06

AMS-QQ-A-250/11

ASME SB 209/Rev2004

Test Code: 1511

Test Results

Lot: 433614A5 Cast 680 Drop 11 Ingot 3

(ASTM E8/B567)

| | | | | | |
|----------|--------|------------------|----------------------------|----------------------------|--------------|
| Tensile: | Temper | Dir / # Tests | Ultimate KSI (MPA) | Yield KSI (MPA) | Elongation % |
| | T651 | LT / 2 (Min:Max) | 47.9 : 47.9 (330 : 330) | 42.8 : 43.1 (295 : 297) | 14.1 : 14.8 |

(ASTM E1251)

| | | | | | | | | | | | |
|------------|------|-----|------|------|-----|------|------|------|------|------|----------|
| Chemistry: | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER |
| Actual | 0.78 | 0.6 | 0.29 | 0.04 | 1.1 | 0.18 | 0.19 | 0.02 | 0.01 | 0.00 | TOT 0.08 |

Lot: 433624A4 Cast 650 Drop 10 Ingot 1

(ASTM E8/B567)

| | | | | | |
|----------|--------|------------------|----------------------------|----------------------------|--------------|
| Tensile: | Temper | Dir / # Tests | Ultimate KSI (MPA) | Yield KSI (MPA) | Elongation % |
| | T651 | LT / 2 (Min:Max) | 46.9 : 47.9 (323 : 330) | 42.5 : 43.4 (293 : 299) | 13.1 : 13.9 |

(ASTM E1251)

| | | | | | | | | | | | |
|------------|------|-----|------|------|-----|------|------|------|------|------|----------|
| Chemistry: | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER |
| Actual | 0.75 | 0.6 | 0.29 | 0.06 | 1.1 | 0.21 | 0.11 | 0.03 | 0.01 | 0.00 | TOT 0.08 |

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4121454

Lot: 716600A2 Cast 850

Drop 07

Ingot 3

Parent Lot: 433536A0

(ASTM E8/B557)

| Tensile: | Temper | Dir / # Tests | Ultimate KSI (MPA) | Yield KSI (MPA) | Elongation % |
|----------|--------|------------------|----------------------------|----------------------------|--------------|
| | T651 | LT / 2 (Min:Max) | 47.0 : 47.8 (324 : 330) | 42.0 : 43.1 (290 : 297) | 13.8 : 13.9 |

(ASTM E1251)

| Chemistry: | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER |
|------------|------|-----|------|------|-----|------|------|------|------|------|----------|
| Actual | 0.71 | 0.6 | 0.31 | 0.07 | 1.1 | 0.19 | 0.11 | 0.03 | 0.01 | 0.00 | TOT 0.08 |

ALLOY LIMITS

| Chemistry: | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER | MAX |
|------------|------|-----|------|------|-----|------|------|------|------|------|-------|------|
| 6061 MIN: | 0.40 | 0.0 | 0.15 | 0.00 | 0.8 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | EACH | 0.05 |
| MAX | 0.8 | 0.7 | 0.40 | 0.15 | 1.2 | 0.35 | 0.25 | 0.15 | 0.05 | 0.05 | TOT | 0.15 |

Aluminum Remainder

CASTLE METALS-LA

DATE REC'D 02/20/02
REC'D FROM KAISER
APPROVED BY [Signature]
IAC 8641

CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE U.S.A OR CANADA AND MANUFACTURED IN THE U.S.A. AND HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT-TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS ARE ON FILE, SUBJECT TO EXAMINATION. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULANT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED.

BILL POYNOR, LABORATORIES SUPERVISOR



Page 2 of 2

**Castle Metals®**

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 1 of 1

No de Formulaire d'Emballage / Pack Slip No:30556

| Expédié de / Ship From:t | | Vendu à / Sold To: | | Expédié à / Ship To: | | Livré à / Deliver To: | |
|---|--------|--|--|---|--|----------------------------------|--|
| Castle Metals - Aerospace Montreal 835-Selkirk Avenue Pointe Claire, QUEBEC H9R 3S2 | | DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 | | DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 | | | |
| Date d'expédition / Date Shipped | F.O.B. | Modalités de transport / Freight Terms | | Transporteur / Carrier | N° du Bon de connaissance / BOL No | N° de livraison / Delivery No | |
| 06-MAR-09 | ORIGIN | Prepaid | | Manitoulin | 29101 | 2147036 | |

| Détails d'expédition / Shipment Details | Destination finale / Final Destination Branch - |
|---|---|
|---|---|

| N° de commande / Order No | N° de ligne Line No | N° d'article / Item No | Description | Qté livrée / Shipped Qty | |
|---|---------------------|----------------------------|--|----------------------------|--------------------------------|
| 173247 | 1 | 8641.MO | 2.0000.PL.6061.T651.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 7 IN () X 6.5 IN () | 40 PCS | |
| N° de bon de commande / Purchase Order No | | N° de pièces / Part Number | Qté commandée / Ordered Qty | Qté expédiée / Shipped Qty | Solde à livrer / Backorder Qty |
| 8027 | | | 40 PCS | 40 PCS | |
| Détails / Details | | | | | |
| | Usine / Mill | | No de coulée / Heat Number | Code méc / Mech Id | Qté expédiée / Shipped Qty |
| | | | 433624A4 | | 40 PCS |

| | | |
|---|--|-------|
| Ces marchandises/technologies sont sujettes aux règlements de l'Export Administration et du département d'Etat des États-Unis. Si elles ont été/sont exportées, elles doivent se conformer à ces règlements. Toute modification du contrat de transport contraire aux lois des États-Unis est interdite. These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited. | | |
| Nous certifions par la présente que le matériel couvert par cette certification est conforme aux spécifications susmentionnées et aux exigences applicables pour le matériel, y compris toute spécification faisant partie de la description. Les rapports d'essai sont archivés pour fins de consultation. Toute requête concernant du matériel défectueux sera rejetée à moins qu'elle ne soit faite par écrit à A. M. Castle & Co. dans les 60 jours suivant la livraison. Le matériel coupé sur mesure ou coupé par le client ne peut être retourné pour crédit. We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit. | | |
| Ce matériel a été reçu et inspecté par This material has been received and inspected by: | | Date: |

SHIP TO:

A M CASTLE & CO
14001 ORANGE AVE
P.O. BOX 1402
PARAMOUNT, CA 90723

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215

Phone: (800) 367-2586

SOLD TO:

AM CASTLE & CO
3400 NO. WOLF ROAD
FRANKLIN PARK, IL 60131

CERTIFIED TEST REPORT

Serial Number

4121454

| | | | | | | | |
|---------------------------------|-------------------------|---------------------------|---|---------------|--------------------------------|---|--|
| CUSTOMER PO NUMBER: 02-29555 | | WORK PACKAGE: | CUSTOMER PART NUMBER: 8641 A96061-60 | | SHIP RUN/LOAD ID: 101220/22 | GOV'T CONTRACT NUMBER: | |
| KAISER ORDER NO: 1062767 | LINE ITEM: 1 | SHIP DATE: 14-FEB-2008 | ALLOY: 8081 | CLAD: BARE | TEMPER: T851 | PRODUCT DESCRIPTION: PRECISION PLATE | |
| WEIGHT SHIPPED: 11222 LB | QUANTITY: 8 PCS EST. | B/L NUMBER: 2016467 | GAUGE: 2.0000 IN | | WIDTH: 48.500 IN | LENGTH: 144.500 IN | |

Certified Specifications

AMS 4027/RevM
ASTM B 209/Rev06

AMS-QQ-A-250/11

ASME 9B 209/Rev2004

Test Code: 1511

Test Results

Lot: 433614A5 Cast 650 Drop 11 Ingot 3

(ASTM E8/B567)

| Tensile: | Temper | Dir / # Tests | Ultimate KSI (MPA) | Yield KSI (MPA) | Elongation % |
|----------|--------|------------------|----------------------------|----------------------------|--------------|
| | T651 | LT / 2 (Min:Max) | 47.9 : 47.9 (330 : 330) | 42.8 : 43.1 (295 : 297) | 14.1 : 14.8 |

(ASTM E1251)

| Chemistry: | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER |
|------------|------|-----|------|------|-----|------|------|------|------|------|----------|
| Actual | 0.78 | 0.6 | 0.29 | 0.04 | 1.1 | 0.18 | 0.19 | 0.02 | 0.01 | 0.00 | TOT 0.06 |

Lot: 433624A4 Cast 650 Drop 10 Ingot 1

(ASTM E8/B567)

| Tensile: | Temper | Dir / # Tests | Ultimate KSI (MPA) | Yield KSI (MPA) | Elongation % |
|----------|--------|------------------|----------------------------|----------------------------|--------------|
| | T651 | LT / 2 (Min:Max) | 46.9 : 47.9 (323 : 330) | 42.5 : 43.4 (293 : 299) | 13.1 : 13.9 |

(ASTM E1251)

| Chemistry: | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER |
|------------|------|-----|------|------|-----|------|------|------|------|------|----------|
| Actual | 0.75 | 0.6 | 0.29 | 0.06 | 1.1 | 0.21 | 0.11 | 0.03 | 0.01 | 0.00 | TOT 0.06 |

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4121454

Lot: 716600A2 Cast 650

Drop 07

Ingot 3

Parent Lot: 433536A0

(ASTM E8/8557)

| Tensile: | Temper | Dir / # Tests | Ultimate KSI (MPA) | Yield KSI (MPA) | Elongation % |
|----------|--------|------------------|----------------------------|----------------------------|--------------|
| | T651 | LT / 2 (Min:Max) | 47.0 : 47.8 (324 : 330) | 42.0 : 43.1 (290 : 297) | 13.8 : 13.9 |

(ASTM E1251)

| Chemistry: | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER |
|------------|------|-----|------|------|-----|------|------|------|------|------|----------|
| Actual | 0.71 | 0.6 | 0.31 | 0.07 | 1.1 | 0.19 | 0.11 | 0.03 | 0.01 | 0.00 | TOT 0.06 |

ALLOY LIMITS

| Chemistry: | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER | MAX |
|------------|------|-----|------|------|-----|------|------|------|------|------|-------|------|
| 6061 MIN: | 0.40 | 0.0 | 0.15 | 0.00 | 0.8 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | EACH | 0.05 |
| MAX | 0.8 | 0.7 | 0.40 | 0.15 | 1.2 | 0.35 | 0.25 | 0.15 | 0.05 | 0.05 | TOT | 0.15 |

Aluminum Remainder

CASTLE METALS-LA

DATE REC'D 02/20/02
REC'D FROM KAISER
APPROVED BY [Signature]
IAC 8641

CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE U.S.A OR CANADA AND MANUFACTURED IN THE U.S.A. AND HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT-TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS ARE ON FILE, SUBJECT TO EXAMINATION. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULANT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED

BILL POYNOR, LABORATORIES SUPERVISOR



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